

CLAIMS

1. A polarizing plate comprising a polarizing
membrane and an optically anisotropic layer formed from
5 liquid crystal molecules, wherein the optically anisotropic
layer is formed on the polarizing membrane, or wherein an
orientation layer is formed on the polarizing membrane, and
the optically anisotropic layer is formed on the
orientation layer.
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2. The polarizing plate as defined in claim 1,
wherein the liquid crystal molecules in the optically
anisotropic layer are rod-like liquid crystal molecules,
and wherein long axes of the rod-like liquid crystal
15 molecules are oriented at an angle of more than 5° on
average to a surface of the polarizing membrane.
3. The polarizing plate as defined in claim 2,
wherein the long axes of the rod-like liquid crystal
20 molecules are oriented at an angle of less than 5° on
average to a transmission axis of the polarizing membrane.
4. The polarizing plate as defined in claim 1,
wherein the liquid crystal molecules in the optically
25 anisotropic layer are discotic liquid crystal molecules,
and wherein discotic planes of the discotic liquid crystal
molecules are oriented at an angle of less than 5° on
average to a surface of the polarizing membrane.
- 30 5. The polarizing plate as defined in claim 1,
wherein the polarizing membrane has a thickness of 20 μm or
less.
6. The polarizing plate as defined in claim 1,
35 which further comprises a light-diffusing layer.

7. The polarizing plate as defined in claim 1, which further comprises an anti-reflection layer.

5 8. The polarizing plate as defined in claim 7, which further comprises a transparent support having a thickness of 70 μm or less, and the anti-reflection layer is provided on the transparent support.

10 9. The polarizing plate as defined in claim 1, wherein the optically anisotropic layer comprises a first optically anisotropic layer formed on the polarizing membrane and a second optically anisotropic layer formed on the first optically anisotropic layer, and wherein long
15 axes or discotic planes of the liquid crystal molecules in the first optically anisotropic layer are oriented at an angle of more than 10° on average to a direction in which long axes or discotic planes of the liquid crystal molecules in the second optically anisotropic layer are
20 oriented on average.

10. The polarizing plate as defined in claim 9, wherein the liquid crystal molecules in the first optically anisotropic layer are rod-like liquid crystal molecules,
25 and wherein long axes of the rod-like liquid crystal molecules are oriented at an angle of less than 5° on average to a surface of the polarizing membrane.

11. The polarizing plate as defined in claim 10,
30 wherein the long axes of the rod-like liquid crystal molecules are oriented at an angle of less than 5° on average to a transmission axis of the polarizing membrane.

12. The polarizing plate as defined in claim 10,
wherein the liquid crystal molecules in the second
optically anisotropic layer are rod-like liquid crystal
molecules, wherein long axes of the rod-like liquid crystal
5 molecules are oriented at an angle of more than 15° on
average to a surface of the polarizing membrane, and
wherein an angle between the long axis of each rod-like
liquid crystal molecule and the surface of the polarizing
membrane varies according to a distance between the rod-
10 like liquid crystal molecule and the polarizing membrane.

13. The polarizing plate as defined in claim 10,
wherein the liquid crystal molecules in the second
optically anisotropic layer are discotic liquid crystal
15 molecules, wherein discotic planes of the discotic liquid
crystal molecules are oriented at an angle of more than 15°
on average to a surface of the polarizing membrane, and
wherein an angle between the discotic plane of each
discotic liquid crystal molecule and the surface of the
20 polarizing membrane varies according to the distance
between the discotic liquid crystal molecule and the
polarizing membrane.

14. The polarizing plate as defined in claim 11,
25 wherein the liquid crystal molecules in the second
optically anisotropic layer are rod-like liquid crystal
molecules, wherein long axes of the rod-like liquid crystal
molecules are oriented at an angle of less than 5° on
average to a surface of the polarizing membrane, and
30 wherein the long axes of the rod-like liquid crystal
molecules are oriented at an angle of less than 5° on
average to a transmission axis of the polarizing membrane.

15. The polarizing plate as defined in claim 10,
wherein the liquid crystal molecules in the second
optically anisotropic layer are discotic liquid crystal
molecules, and wherein discotic planes of the discotic
5 liquid crystal molecules are oriented at an angle of more
than 85° on average to a surface of the polarizing membrane.

16. The polarizing plate as defined in claim 9,
wherein the liquid crystal molecules in the first optically
10 anisotropic layer are discotic liquid crystal molecules,
and wherein discotic planes of the discotic liquid crystal
molecules are oriented at an angle of more than 5° on
average to a surface of the polarizing membrane.

15 17. The polarizing plate as defined in claim 16,
wherein the liquid crystal molecules in the second
optically anisotropic layer are rod-like liquid crystal
molecules, wherein long axes of the rod-like liquid crystal
molecules are oriented at an angle of more than 15° on
20 average to a surface of the polarizing membrane, and
wherein an angle between the long axis of each rod-like
liquid crystal molecule and the surface of the polarizing
membrane varies according to the distance between the rod-
like liquid crystal molecule and the polarizing membrane.

25 18. The polarizing plate as defined in claim 16,
wherein the liquid crystal molecules in the second
optically anisotropic layer are discotic liquid crystal
molecules, wherein discotic planes of the discotic liquid
30 crystal molecules are oriented at an angle of more than 15°
on average to a surface of the polarizing membrane, and
wherein an angle between the discotic plane of each
discotic liquid crystal molecule and the surface of the
polarizing membrane varies according to the distance

between the discotic liquid crystal molecule and the polarizing membrane.

19. The polarizing plate as defined in claim 16,
5 wherein the liquid crystal molecules in the second optically anisotropic layer are rod-like liquid crystal molecules, and wherein long axes of the rod-like liquid crystal molecules are oriented at an angle of less than 5° on average to a surface of the polarizing membrane.

10. 20. The polarizing plate as defined in claim 19, wherein the long axes of the rod-like liquid crystal molecules are oriented at an angle of less than 5° on average to a transmission axis of the polarizing membrane.

15 21. The polarizing plate as defined in claim 9, wherein the first optically anisotropic layer functions as an orientation layer of the second optically anisotropic layer.

20 22. A liquid crystal display comprising a liquid crystal cell and a polarizing plate defined in claim 1.

25 23. A process for preparation of a polarizing plate comprising a polarizing membrane and an optically anisotropic layer, which comprises a step of coating a coating solution containing liquid crystal molecules on a surface of the polarizing membrane to form the optically anisotropic layer.

30 24. A process for preparation of a polarizing plate comprising a polarizing membrane and an optically anisotropic layer, which comprises steps of forming an orientation layer on a surface of the polarizing membrane
35 and coating a coating solution containing liquid crystal

molecules on a surface of the orientation layer to form the optically anisotropic layer.